

Leek  
District



Urban  
Council.

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JOINT REPORT  
OF THE  
Medical Officer of Health  
AND  
Sanitary Inspector  
ON THE  
Sanitary Condition of Leek,  
For the Year ending 1903.

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CHARLES KIRKHAM, PRINTER, &C., DERBY STREET, LEEK.



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## TO THE LEEK URBAN DISTRICT COUNCIL.

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MR. CHAIRMAN AND GENTLEMEN,

In submitting my report for the year 1903, I would again point out that as these reports are framed according to the requirements of the Local Government Board and County Council, there is necessarily a large amount of repetition of previous reports, as a statement of the local circumstances and a history of local sanitary questions, which may seem superfluous to you, may frequently be required by them.

### GENERAL LOCAL FEATURES.

The Leek Urban Sanitary District covers an area of 1,460 acres, and in the highest portion of what is a hilly district, attains an elevation of about 600 feet above sea level; the natural drainage is into the river Churnet.

A line drawn across the middle of the district, due north and south, marks fairly accurately its geological division; on the east of this line is a sub-soil of clay, on the west one consisting of red sandstone.

Investigations have been made with the view of ascertaining what influence this difference of sub-soil has on the health of the inhabitants, both in respect to the general mortality, and more particularly as to its influence on the mortality from Phthisis, with the somewhat unexpected result that no appreciable difference could be demonstrated.

Further comparative investigations relating to other diseases would be interesting and instructive.

The population is mainly composed of artisans, the chief trade being silk manufacture and silk dyeing.

#### HOUSE ACCOMMODATION.

The house accommodation is fairly good, both as regards its adequacy, and fitness for habitation. Six cases of overcrowding have been investigated and reported on, and after notices had been served, the condition was brought within legal limits, prosecution being rendered unnecessary.

Public attention was called to this matter by some remarks of the Coroner in the case of the death of a child from pneumonia; calculation of the cubic space, however, showed that the limit of 250 cubic feet to each person above the age of 10 years was not exceeded, though the maximum was attained; similar cases, and I fear there

are many such, are best described as borderland cases, which I should heartily rejoice to get rid of, but the dearth of houses having good-sized rooms at a low rent makes it impossible, for wages are always comparatively low in many branches of silk manufacture, and especially low now that the trade is bad and many workers are making short time.

The injurious effects in these borderland cases would be largely counteracted if the people would learn to open the windows more freely and to unstop the chimneys which are stuffed with a bag of shavings, &c., or blocked by boards and frequently papered over to look clean and pretty. These conditions, which plainly mean want of fresh air and accumulation of bad air in the bed rooms, have an important bearing on our infant mortality, for infants are most susceptible to the poisonous atmosphere, and either die in the early months, or surviving these grow up poor miserable wrecks, a burden to themselves and to the rest of the community.

A sufficiency of open space about the houses is much more apparent in the more recently erected buildings, and their surroundings are clean. There are only 14 back-to-back houses in the whole district, ten of these have two large bed-rooms with good windows, and are provided with a separate water-closet each.

Supervision is constantly exercised over the erection of new houses.

#### SEWERAGE AND DRAINAGE.

Under this heading I am compelled to repeat from last year's report :—"It is again necessary to call your attention to some outlying portions of the district which require drainage improvement : the portions to which I refer are the west out-fall ; also the district adjoining the Canal Wharf, which should be properly drained, and the sewage conveyed to the west side of the sewage farm."

Early in June, a complaint was made that sewage matter was finding its way from the main sewer in Buxton Road into Ball Haye Brook.

The sewer was forthwith repaired, and your Committee requested the Surveyor, Sanitary Inspector, and me, to inspect the whole brook course ; the following is my report :—

"In framing this report I am at the outset beset with difficulty due to the fact that examination of water is generally based on the assumption that the water under consideration is a potable water, and the analyses are determined to enable one to say whether the water is a safe water to drink.

In the case of Ball Haye Brook, however, the water is never used as a drinking water, but should be of sufficient



purity to turn into the river, it may be compared with a good sewage effluent perhaps more accurately than with pure drinking water. For many purposes for which water is required it is not necessary for it to be "pure," and an impure water may serve well for mechanical and manufacturing purposes.

Water from streams is very variable in character, during heavy rains the surface water may carry with it impurities from the soil, at other times animals may defile it, drainage from houses or farmyards may enter it; sewage or sewage effluents or manufacturing refuse may be discharged into it, or again vegetable growths occurring in the stream or on its banks decay and give up organic matter to the water.

Most of these conditions influence the Ball Haye Brook, and though it takes its origin from the Old Fountain as a fairly good but not an absolutely pure water it collects impurities in its course from one source or another and some of these impurities must be viewed as possible dangers to health.

Together with the Surveyor and Sanitary Inspector I examined the whole brook course, and samples were taken at the following points:—

No. 1. Water from Old Fountain at the "Pig and Whistle."

No. 2. Buxton Road manhole (near Osborne Street) Old Fountain water and storm water.

No. 3. Hall's carrier

No. 4. Turnock's drain outlet.

No. 5. Rider's Field.

No. 6. Brealey's outlet.

No. 7. Booth's outlet.

No. 8. Gould's outlet.

No. 9. Davenport's outlet from Fishponds.

No. 10. Outfall as it enters the Churnet.

Table showing the approximate analysis of these samples is appended :—

	Appearance in tube	Free Ammonia present	Nitrites present	Amount of oxygen absorbed in grains per gallon.
No. 1	Clear .. ..	Very faint trace	Very faint trace	0.3 grains
No. 2	Slight deposit (inorganic) ..	Very faint trace	Very faint trace	0.3 grains
No. 3	Not clear. Slightly turbid	Faint trace ..	Fair quantity ..	0.3 grains
No. 4	Turbid .. ..	Abundant ..	Abundant ..	0.6 grains
No. 5	Fairly clear. Slight deposit	Moderate amount ..	Trace .. ..	0.3 grains
No. 6	Turbid, deposit	Moderate amount ..	Fair quantity ..	0.4 grains
No. 7	Turbid, deposit	Moderate amount ..	Fair quantity ..	0.4 grains
No. 8	Slightly turbid	Distinct trace. Slightly less than No. 7 ..	Fair quantity ..	0.4 grains
No. 9	Clear. No deposit ..	Very faint trace	Absent ..	0.3 grains
No. 10	Slightly turbid	Faint trace ..	Absent ..	0.4 grains

Metallic impurities practically nil.

The results of the examination point to the following conclusions :—

Nos. 1 and 2 are fairly good waters.

No. 3 contains more organic matter, possibly owing to previously existing escape of sewage from the Buxton Road sewer, but more especially to the filthy and dilapidated state of the carrier, the walls of which were broken down and the bed silted up with mud and filth.

No. 4 stands out as the worst sample ; in fact, this may be described as a sewage, pure and simple.

No. 5 contaminated, but far better than No. 4.

Numbers 6 and 7 show an increase in organic matter, possibly due to excrement of ducks, and partial stagnation in catch pits.

No. 8. Rather better sample than 6 and 7.

No. 9. Much better than No. 8 ; in fact, a fairly good water.

No. 10. Not quite so good as No. 9, owing to surface water containing organic matter joining the brook between Mr. Davenport's pond, and the outfall, also due to the fact that when the water is muddy during times of storm it is apparently conveyed along a carrier past the pond into the land beyond, and again finds its way into the brook.

In my opinion No. 10 is sufficiently pure to run into the river.

Reviewing the whole series it is evident that pollution takes place mainly at No. 4, and this might have proved a great danger to health had the water been used for drinking. Fortunately this drain conveys sewage from two

houses only (or about half a dozen persons all told); it is also fortunate that after joining the stream in its upper course it has a considerable distance to traverse; this gives time for natural purification to take place, a large quantity of its organic matter getting burnt up before it finally reaches the Churnet.

The leakage into Hall's carrier may have temporarily added to the pollution, this is now being thoroughly cleaned out and further pollution is unlikely to occur here.

It is impossible to say whether the water has or has not been the cause of diphtheria, but I think this improbable. A case was reported at Portland House a few months ago when an examination of the premises revealed such a defective condition of sanitary arrangements that I think this case had nothing to do with the brook, another case was reported on the 16th, inst., at Rosebank Villa: whether this can be attributed to the brook it is impossible to say, further bacteriological tests might or might not clear up this point.

All mechanical and structural questions relating to silting up and clearing of the various ponds I have left in the hands of the Surveyor and the Inspector, and in concluding my remarks I may add that when the sources of pollution referred to have been remedied the water of the brook will, in my opinion, be harmless."

#### SEWAGE DISPOSAL.

The history of our sewage disposal has been an extremely chequered and unsatisfactory one, but I venture to hope we have now turned a page which will record the beginning of a scheme calculated to give us a solution of our difficulties.

The working of the land treatment as devised by Mr. Bailey Denton has not fulfilled requirements or expectations: the nature of the soil in the lower or broad irrigation portion is such as to become clogged and sewage logged, an attempt to remedy this has been made by more freely under-draining it. Still the effluents were unsatisfactory. True in 1901 Mr. Carter Bell made an analysis and report, in which he considered the effluent fit to turn into any river, but this must have been an exceptionally good effluent, the character of which has not been maintained as shown by subsequent County Council analysis.

Your committee gave the question repeated and prolonged attention, in the first place considering the advisability of enlarging the filtration area (from which good results have been obtained) by utilizing the land on the east of the railway: the difficulty in the way of the adoption of this extension of land treatment lay principally in the fact that the lower portion of such land is of the same nature as the lower portion of the present farm and does not offer any better prospect of drainage and purification.

Early this year (1903) Professor Wanklyn promised to put an end to our troubles by the adoption of his (Wanklyn and Cooper's) patent aerators and charcoal treatment. He submitted that he would produce an effluent direct from the tanks without any land treatment, which would equal the effluent of Mr. Carter Bell's 1901 analysis. This scheme was commenced the end of March under the personal supervision of the Professor, who had the tanks altered and the patent aerators adapted to them, the analyses of Mr. Carter Bell do not, however, give the result promised by the patentees. On August 20, 1903, he reported "This is a very bad affluent, no purification has taken

place." Again, on December 5th, 1903, he reported: Nos. 1, 2, and 3 are exceedingly bad effluents, and are not fit to run into a clear stream. No 4. is very much better than 1, 2, and 3. This is not one which could be called a first-class effluent, as it contains too much organic matter and is liable to secondary decomposition." Therefore with matters in this condition and the County Council pressing for improvement, culminating at length in the serving of a statutory notice, your committee was obliged to seek further help.

In November your surveyor, Mr. Beacham, advised the adoption of a scheme of which he had practical knowledge at Rochdale and which was reported to be giving good results in several towns. A deputation was appointed to visit a few of these installations, viz., York, Leeds, and Accrington, and to report on the same. The scheme, in brief, is that of the open septic tank and continuous filters, and, as evidenced at these places, gave such capital results that the deputation was able to strongly recommend its adoption.

Further, a deputation was appointed and waited on the County Council's Sanitary Committee in December, submitting the proposed scheme and asking the Council to stay its hand during the development of the scheme and obtaining the sanction of the Local Government Board, and to allow us in the first place to limit the scheme to the south outfall; these provisions with an alteration in the material used in the continuous filter (broken saggars being substituted for coke), the County Council granted under the following conditions :—

1. That a Consulting Sanitary Engineer of experience and repute, to be approved by this committee, be called in to

confer with the Surveyor of the Urban District Council and prepare a scheme to be submitted to the committee.

2. That the Urban District Council undertake, within one month, to act on the foregoing, and within three months from this date to submit a scheme and prepare plans.

3. That the Urban District Council further undertake that when the approval of the committee has been given, application for the sanction of the Local Government Board shall forthwith be made.

4. Such scheme may, in the first instance, be limited to the south outfall.

Your committee welcomed the suggestion to call in a sanitary engineer to confer with your surveyor, but considered that as the latter had already prepared an outline scheme he should, after consultation with selected engineer, proceed to complete his plans, and on December 21st a recommendation was passed that Mr. Sidney R. Lowcock, C.E., of Temple Court, Temple Row, Birmingham, be called in, subject to suitable arrangements being made with him, to confer with the surveyor and report upon such plans and scheme. I hope that before many months have elapsed we shall be producing a satisfactory effluent.

#### EXCREMENT DISPOSAL.

The system in vogue for the disposal of excrement is mainly the water-carriage system, the remaining privies being gradually replaced by hand-flushed hopper closets. During the year 11 privies have been converted into water closets.



## REMOVAL AND DISPOSAL OF HOUSE AND TRADE REFUSE.

The removal of house refuse is accomplished by the public scavengers employed by the Council, who make weekly rounds to collect the contents of about 2,000 movable receptacles; otherwise where ashpits exist these are emptied on notice being sent to the Authority. During the year 10 offensive ashpits have been abolished.

The disposal of refuse consists simply in its being emptied on the 'tip,' and as in addition to ashes this refuse contains a mixture of decomposing animal and vegetable matter, the 'tips' necessarily become a source of danger to the community. This is a matter which calls for the attention of the Council in the near future; 'tipping' should be entirely abolished, and in its place a 'destructor' erected, in which these objectionable matters could be cremated.

The want of a "Destructor" is perhaps more keenly felt for the final disposal of "trade refuse" accumulating from butchers', fishmongers', provision dealers', green-grocers', fried-fish and tripe shops: this is not collected with house refuse and leads to many cases of nuisance. Of all kinds of refuse this is surely the worst, and requires destruction by fire.

## WATER SUPPLY.

The water supply is one of which we are justly proud; taking its origin in a series of deep springs in the millstone grit of the Roches, which are all carefully covered in, it is carried directly, practically without storage, to the town. The only approach to storage consists in the use of a reservoir situated on the outskirts of the town, which receives the surplus of water during the



night, this is again reduced by the increased demand during the day, diminishing the pressure in the mains, and allowing a flow from the reservoir through an automatic valve. The supply is sufficient, wholesome, and free from risk of pollution.

There is no necessity for storage in cisterns on the premises as the supply is on the "constant" system. I am pleased to be able to report that the practice of turning off the water one afternoon a week, which was referred to in last year's report, is now almost entirely abolished, your Surveyor having fixed valves in such positions as to render it possible to cut off the water from any street or in any desired locality.

Lodging-houses, slaughter-houses, bake-houses, dairies, cowsheds, &c., are dealt with in detail in the Inspector's report.

#### INFECTIOUS DISEASES AND ISOLATION HOSPITAL.

Infectious diseases are as far as possible dealt with at the Isolation Hospital; true isolation in the homes being well nigh an impossibility. In this connection I heartily endorse the remarks of the Inspector.

The question of Hospital accommodation is still under the consideration of your committee, to whom I have pointed out the necessity of increased accommodation, and especially the desirability of providing small observation wards in which cases of a doubtful nature could be temporarily isolated until their exact diagnosis had been made; also the provision of a suitable discharging room, so that patients may be bathed, clothed, and discharged without coming near the wards.

In view of the fact that during the year the total number of cases in hospital has only been 38 (no serious epidemic having occurred) it is somewhat difficult for me to urge the point of increased accommodation; this difficulty it will, however, be readily admitted is more apparent than real, and because we have not experienced during the year any serious epidemic the chances are the more strongly in favour of its coming upon us at an early date, for which contingency we should do well to be fully prepared. It must be borne in mind that a small isolation hospital requires a comparatively large and expensive staff in order to meet times of extraordinary stress, though it may be empty or nearly empty for months together; and it is manifestly unfair to compare the cost per patient per week with the cost per patient in a general hospital, where the percentage of beds occupied is constantly higher, and where totally different conditions obtain throughout.

#### DISINFECTION.

Disinfection is effected by means of the dense fumes of vaporised carbolic acid, produced by a portable apparatus designed by Mr. Farrow, more than twenty years ago, and now made by Messrs. Calvert, of Manchester. This method has been constantly used in this district since that time to the exclusion of all other methods; it is rapid, clean, efficient, and is not injurious to furniture or metal work, and in no way affects the colours of pictures, wall-papers, or delicate fabrics; all great advantages over the sulphur method.

Half-a-pound of phenol can be converted into vapour in three minutes, and is sufficient for the disinfection of a room of the capacity of 1,000 cubic feet.

I have personally proved the efficacy of this vapour by extended bacteriological experiments, and beg to call the attention of the various Authorities of the County to this simple means of disinfection: the results obtained with mattresses, bedding, &c., were not, however, satisfactory, for these articles current steam should be used.

During the year we have added to our equipment a "Thresh's Emergency Disinfector," which is kept at the Isolation Hospital; it is portable, and is available for use in the proximity of any house where required. We have also recently acquired a properly constructed hand cart for the conveyance of infected bedding, &c., either to the "Disinfector" or to destruction by fire, unhappily I cannot use the word "Destructor" in its technical sense, but hope that in the near future this will be possible.

#### MORTALITY RETURNS.

A glance through the following figures, and the study of the statistical tables appended to this report, serve to show a diminished number of deaths for the year, yielding a mortality rate much lower than any recorded of recent years.

The deaths for the year numbered 277, which is 7 less than the average for the preceding 10 years and gives a mortality rate of 17·6 per 1,000, which when corrected by the deduction of 15 non-residents, and the addition of 2 residents who died beyond our boundaries, leaves an actual death-rate of 16·7 per 1,000 of the living.

The mean age at death of each deceased individual was of all persons 39·8 years, of males 36·2, and of females 43·2 years.

## AGES AT DEATH.

Under 1 year	...	...	56
Between 1 and 5 years		...	21
„ 5 „ 15 „		...	8
„ 15 „ 25 „		...	13
„ 25 „ 65		...	99
Over 65 years	...	...	67

There was only 1 uncertified death in the district during the year.

## BIRTHS.

The number of births registered during the year was 420, 2 less than last year's return, and exactly the average for the preceding 10 years. These comprised 216 males and 204 females, giving a birth rate of 26·6 per 1,000 of the population. Twenty-eight still-births have been registered during the year.

## INFANT MORTALITY.

It gives me great pleasure to be able to report a considerable improvement in our infant mortality, which during the last two years had reached 167 and 165·8 per 1,000 births, has now fallen to 133·3, the figures for the whole of England and Wales for 1903 being 132.

It will be seen from table 3 of the Sanitary Inspector's report, our present rate of 133·3 per 1,000 births is 15·1 per 1,000 less than the average for the 10 years, 1891—1900.

The improvement is extremely welcome and may be accounted for by the following factors:—

1. The silk trade has not been good, many workers having been on short time, allowing the mothers more time to devote to home duties and to the care of their children.

2. The absence of any serious epidemic disease.

3. The possible good effect of the cards " How to feed the baby " ; cases coming under my own observation have convinced me that these cards are read and the instructions are sometimes put into practice.

There is still much room for improvement in which instruction to the elder girls in the elementary schools in matters relating to health in the home and the feeding of infants should play an important part. In my last report I expressed the hope that at an early date we might see the establishment of one or two crèches or day nurseries which are especially needed in a town like ours ; hitherto no definite step has been taken, and one must be content to wait, feeling sure that this important aid will not be long postponed.

#### CAUSES OF DEATH.

The Zymotic class of diseases is responsible for 9 deaths, the average for the previous ten years being 22·4, of these 3 were attributed to diarrhœa, 2 each to small-pox and epidemic influenza, and 1 each to enteric fever and measles.

In all cases of infectious disease the premises have been promptly inspected, and most careful investigation made to discover the source of infection, sanitary defects discovered being remedied forthwith.

The milk supply was free from suspicion in every instance.

Twenty nine cases of scarlet fever, 23 cases of diphtheria, 7 cases of enteric fever, and 18 cases of small-pox were notified during the year, of which 24 scarlet fever, 8 diphtheria, 3 enteric fever were removed to the Isolation Hospital,

the 18 cases of small-pox were removed to the Bagnall Hospital, giving a total of 53 removals to Hospital out of ~~84~~ cases notified, or 63·0 per cent.

The voluntary notification of the first case of measles in any house adopted during the year has certainly been of benefit, having given early indication of the locality of the disease, and enabling measures to be taken to exclude from school all the children from infected houses: the notification has also an educational influence for it impresses the public with the gravity of the disease, which impression is emphasized by serving an infectious disease notice on the parent.

Phthisis has been responsible for 28 deaths, the average for the preceding 10 years being 23.

The phthisis notification post cards from the registrar to the Sanitary Inspector have been of great service in supplying early information, enabling disinfection to be carried out in every case without delay. I am glad to add that no opposition to this procedure is encountered.

In the class of Local diseases the mortality from diseases of the brain and nervous system was 26, the average for 10 years being 34·4: that from heart affections 37, the 10 years' average being 32·5: that from diseases of the digestive organs 22, the average for 10 years being 23·9: that from diseases of the respiratory organs 58, the 10 years' average being 47, and that from malignant disease 11, the 10 years' average being 12·5.

As these diseases are chiefly the result of mistaken and injurious habits of life, we do not find that improved sanitation has much influence over them, although in other classes this agency has been most effectual, as demonstrated by the fact that within the last 40 years the

rate of mortality has been reduced 30 per cent., and the duration of life increased 30 per cent., as compared with the 10 years ending 1860.

There is nothing more in this year's mortality returns requiring special comment, and I append table giving principal causes of death in 1903 :—

	Number of deaths.	Average of preceding 10 years.	Mortality per 1,000 of population.
Influenza .. ..	2	2·2	0·12
Measles .. ..	1	9·6	0·06
Diarrhœa .. ..	3	nil	0·18
Enteric fever .. ..	1	2·6	0·06
Small-pox .. ..	2	nil	0·12
Total zymotic diseases ..	9	20·4	0·57
Phthisis .. ..	28	22·9	1·77
Bronchitis, pleurisy, and pneumonia ..	50	47	3·17
Heart disease .. ..	37	32·5	2·35
Cancer ... ..	11	12·5	0·69



## THE SMALL-POX EPIDEMIC.

The Smallpox epidemic began early in February and continued until September; it originated with members of the tramping fraternity, and with some of the workmen on the Waterhouses section of the Light Railway, many of the men employed there belonging to the tramp class who coming from all parts of the country would work a few hours or a few days and then move on to other districts.

Each case was sent to Bagnall Hospital as soon as the notification was received; contacts were isolated, re-vaccinated wherever possible and necessary, and food supplied during the quarantine period. The following table shows in condensed form the action taken in each case, the extra work involved falling heavily on the officials of the Sanitary department. Owing to the mild nature of several of the cases doubt as to the diagnosis readily spread even to members of your Committee, and to hear their emphatic statements one could only come to the conclusion that they had received a life-long training, and had emerged as experts on small-pox, chicken-pox and all matters relating thereto. In the face of this weighty opinion I am pleased to state that every one of these cases was pronounced to be genuine small-pox by Dr. Phillips of Bagnall Hospital. On the other hand it is my belief that some doubtful cases which were considered to be chicken-pox subsequent events



proved to have been true small-pox, as cases XV and XVI probably originated from this source, and several cases arose at Congleton which could be traced to the same family. So modified were these Leek cases that when two or three medical men had seen them they had no hesitation in saying they were chicken-pox.

I am sorry to report two deaths, both in un-vaccinated individuals; no death occurred in any vaccinated person, and one un-vaccinated child recovered.

On the 3rd April, the County Medical Officer came to inspect the different infected areas, and to advise as to proceedings to be taken.

During April two men who were quarantined in a Lodging-house escaped, proceedings were taken against them for exposing infected clothing without previous disinfection in contravention of section 126 of the Public Health Act, 1875. The defendants did not appear. The Bench considered it a serious offence, and were of opinion that warrants should be issued for their apprehension, they had, however, left this part of the country and could not be traced.

TABLE giving particulars in reference to cases of Small-Pox occurring spread of the disease.

Date of Notification and number of cases	Age and Sex	Date of removal to Bagnall S.H.	Vaccinated or Un-Vaccinated	Date of Discharge or Death	SOURCE OF INFECTION.
Feb. 12 I	47 M	Feb. 12	Vac.	April 8	A Tramp.—Not known
Mar. 14 II	54 M	Mar. 14	Vac.	April 14	A Tramp.—Not known
Mar. 16 III	31 M	Mar. 16	Vac.	April 20	Working on Light Railway prior to illness
Mar. 29 IV	36 M	Mar. 30	Vac.	May 8	Working on Light Railway prior to illness
Mar. 30 V	45 F	Mar. 30	Vac.	April 20	Had been nursing case VI at his home
Mar. 30 VI	36 M	Mar. 30	Vac.	April 14	Not known
Mar. 31 VII	47 M	Mar. 31	Vac.	April 23	Case VI, with whom he had slept, was found when seeking case VI
June 12 VIII	5 F	June 12	Un-Vac.	Died June 15 at Bagnall	Not known.—Probable source May Fair, held May 18th to 25th
July IX	52 M	July 3	Un-Vac.	Died July 4 at 11 p.m. at Bagnall	Not known.
July X	15 F	July 7	Vac.	Aug. 1	Supposed from case IX, but not distinctly traceable
July XI	45 F	July 11	Vac.	Aug. 14	Wife of case IX. Had been in quarantine since her husband's removal
July XII	8 F	July 17	Un-Vac.	Aug. 22	Friend of cases IX and XI, and occasionally visited the house.
July XIII	38 M	July 17	Vac.	Aug. 14	Visited case IX on June 30th whilst he was sick—before diagnosis made
July XIV	17 F	July 20	Vac.	Aug. 12	A Lodger in same house had been with IX. Not distinctly traceable
Aug. XV	34 F	Aug. 4	Vac.	Aug. 26	Had been to see a case of supposed Chicken-Pox.
Aug. XVI	42 F	Aug. 6	Vac.	Sept. 12	Had been with XV visiting case of Chicken-Pox
Aug. XVII	14 M	Aug. 15	Vac.	Sept. 12	Contact with his mother, case XVI
Aug. XVIII	40 M	Aug. 21	Vac.	Sept. 12	Contact with his wife, case XV, Aug. 4th

uring the year 1903, and the action taken thereon with a view to prevent the

No. of beds and other infected articles destroyed and replaced.	No. of contacts kept in quarantine for 17 days	No. of contacts vaccinated or re-vaccinated	No. of contacts who developed the Disease	Others who had seen patient, who were vaccinated
3 Tramp Ward disinfected	2	1	None	1
0 Tramp Ward disinfected	11 All vagrants	0 All declined	None	None
One wool bed, bolsters, and two pillows Premises thoroughly disinfected	3	Wife re-vaccinated and child vaccinated, 1 Child had very good marks	None	4
One wool bed, bolsters, and two pillows, and a lot of old clothes, &c. Premises thoroughly disinfected	13. Each was paid 5/- per week & had food & tobacco provided by Council	Six recently vaccinated, the others declined	None	None
One wool bed and contents of green-grocery shop. Premises thoroughly disinfected	1	1	None	None
See case VII below	None	None	2 Cases V & VII	None
One wool bed, bolster, two pillows, and straw mattress. Premises thoroughly disinfected	None	None	None	None
One bed, bolster, and two pillows. Premises thoroughly disinfected	6	4 Two youngest children showed good marks	None	None
One bed, bolster, and two pillows. Patients bedroom disinfected	1	1	1	3
One bed, bolster, and two pillows Premises thoroughly disinfected	3	3	None	None
Two beds bolsters, and three pillows Premises thoroughly disinfected	None. House closed by Council, and thoroughly disinfected	None	None	None
One bed and two pillows Premises thoroughly disinfected	3	3	None	2
One bed, bolster, and two pillows. Premises thoroughly disinfected	8	6 Other two showed good marks	None	None
One bed, bolster, and two pillows. Premises thoroughly disinfected	10	6 Other four showed good marks	None	None
One bed, bolster and two pillows, Premises thoroughly disinfected	5	None	1	None
One bed, bolster, and two pillows. Premises thoroughly disinfected	7	3 Others showed good marks	1	None
One bed and two pillows. Premises thoroughly disinfected	6	None	None	None
Premises thoroughly disinfected	1	None	None	1

## VACCINATION.

Through the courtesy of the Vaccination Officer, I am able to give figures relating to the last 7 years experience in this District.

	Births	Vaccinated	Exemptions	Insusceptible	Removed	Dead	Postponed
1897	434	266	98	1	17	52	0
1898	433	243	139	0	9	43	0
1899	377	262	49	0	10	50	6
1900	414	218	41	1	6	39	10
1901	406	216	51	0	2	41	18
1902	426	236	27	0	9	42	25
1903	420	213	46	1	8	30	19

The figures in these columns apply only to those children registered during the year, a proportion of which still remain under the vaccination age. Thus taking the figures of children vaccinated we have 213, whereas the number of children actually vaccinated during the year was 390, and the number of exemptions granted was 59, of which 46 only apply to births registered during 1903. During the year 200 re-vaccinations were performed by the public vaccinator, and a large number by private practitioners.

We cannot ignore the fact that there is still a great amount of growing opposition to vaccination, in spite of improved methods, vaccination performed at the home, and glycerinated lymph, and also in spite of the presence of small-pox in our midst during the greater part of the year which resulted in 2 deaths, both in unvaccinated individuals, which experience alone certainly ought to lend weight to the argument for vaccination.

The number of exemptions is nearly 11 per cent. of the total number of births registered, which is much too high for the safety of the community.

As far as I am able to judge vaccination is efficiently performed. It is, however, a matter of regret that the Act does not compel the private practitioner to vaccinate in four places, as the public vaccinator is obliged to do. It would also, in my opinion, improve the efficiency of vaccination if the Government supplied lymph to all practitioners, inspected the work done, and paid the fees.



The following tables are compiled in the form required by the Local Government Board and the Staffordshire County Council :—

"TABLE I."—VITAL STATISTICS OF WHOLE DISTRICT DURING 1903 AND PREVIOUS YEARS.

Y <small>EAR</small> .	Births.		Total Deaths Registered in the District.					Total Deaths in Public Institutions in the District.	Deaths of Non-residents registered in Public Institutions in the District.	Deaths of Residents registered in Public Institutions beyond the District.	Nett Deaths at all ages belonging to the District.		
	Popula- tion estimat- ed to middle of each Year.	Number.	Rate.*	Under 1 Year of Age,		At all Ages.					Num- ber.	Rate*	
				Number.	Rate per 1,000 Births registered.	Num- ber.	Rate*						
													5
I	2	3	4	5	6	7	8	9	10	11	12	13	
1893.	14406	425	29.5	59	138.8	292	20.2	26	10	..	282	19.5	
1894.	14593	429	29.4	71	166.2	250	17.1	30	11	..	239	16.3	
1895.	14746	447	30.3	81	181.2	295	20.0	30	13	..	282	19.1	
1896.	14920	408	27.3	47	115.1	257	17.2	24	9	..	248	16.8	
1897.	15037	418	27.7	54	129.1	289	19.2	36	16	..	273	18.1	
1898.	15174	437	28.7	59	135.0	267	17.5	32	9	..	258	17.0	
1899.	15242	376	24.6	74	196.8	323	21.1	40	16	..	307	20.1	
1900.	15386	414	26.9	59	142.5	280	18.2	40	20	..	260	16.9	
1901.	15509	406	26.1	68	167.4	294	18.9	38	18	1	277	17.8	
1902.	15562	422	26.9	70	165.8	298	19.0	36	14	2	286	18.2	
Averages for years 1893-1902.	15057	418	27.7	64.2	153.5	284.5	18.8	33.2	13.6	0.3	271.2	18.0	
1903.	15726	420	26.6	56	133.3	277	17.6	37	15	2	264	16.7	

\* Rates in Columns 4, 8 and 13, calculated per 1,000 of estimated population.

Note.—The deaths to be included in Column 7 of this table are the whole of those registered during the year as having actually occurred within the district or division. The deaths to be included in Column 12 are the number in Column 7, corrected by the subtraction of the number in Column 10 and the addition of the number in Column 11.

By the term "Non-residents" is meant persons brought into the district on account of sickness or infirmity, and dying in public institutions there; and by the term "Residents" is meant persons who have been taken out of the district on account of sickness or infirmity, and have died in public institutions elsewhere.

The Public Institutions "to be taken into account for the purposes of these Tables are those into which persons are habitually received on account of sickness or infirmity, such as hospitals, workhouses and lunatic asylums.

Area of District in acres (exclusive of area covered by water) 1460, total population at all ages 16,484, number of inhabited houses 3,380, average number of persons per house 4.58, at census 1901.

The Public Institutions "in respect of the deaths, in which corrections have been made, are Leek Union Workhouse, Leek Cottage Hospital, and Bagnall Smallpox Joint Isolation Hospital.

"TABLE III."  
 CASES OF INFECTIOUS DISEASE NOTIFIED DURING  
 THE YEAR 1903.

NOTIFIABLE DISEASE.	CASES NOTIFIED IN WHOLE DISTRICT.						
	At all Ages.	Under 1.	1 to 5	5 to 15	15 to 25	25 to 65	65 and upwards.
Small-pox .. ..	18	..	..	2	3	13	..
Cholera .. ..	..	..	..	..	..	..	..
Diphtheria .. ..	23	..	2	11	6	4	..
Membranous croup ..	..	..	..	..	..	..	..
Erysipelas .. ..	7	..	1	..	1	3	2
Scarlet fever .. ..	29	..	7	20	1	1	..
Typhus fever .. ..	..	..	..	..	..	..	..
Enteric fever .. ..	7	..	..	3	3	1	..
Relapsing fever ..	..	..	..	..	..	..	..
Continued fever ..	..	..	..	..	..	..	..
Puerperal fever ..	..	..	..	..	..	..	..
Chicken Pox .. ..	2	..	..	2	..	..	..
Measles .. ..	16	..	2	10	4	..	..
Totals .. ..	102	..	12	48	18	22	2

Number of cases removed from the Leek Urban District to the Leek Isolation Hospital, Diphtheria 8, Scarlet Fever 24, Enteric Fever 3, total 35; to the Bagnall Small-pox Joint Hospital, 18 cases.



"TABLE IV."  
CAUSES OF, AND AGES AT, DEATH DURING YEAR 1903,  
IN THE LEEK URBAN DISTRICT.

CAUSES OF DEATH.	DEATHS IN OR BELONGING TO WHOLE DISTRICT AT SUBJOINED AGES.							Total Deaths in Public Institu- tions in the District
	All ages.	Under 1 year.	1 and under 5.	5 and under 15.	15 and under 25.	25 and under 65.	65 and up- wards	
Small-pox .. ..	2	..	..	I	..	I	..	..
Measles ... ..	I	..	I	..	..	..	..	..
Scarlet fever ..	..	..	..	..	..	..	..	..
Whooping-cough ..	..	..	..	..	..	..	..	..
Diphtheria and mem- branous croup ..	..	..	..	..	..	..	..	..
Croup .. ..	..	..	..	..	..	..	..	..
Fever { Typhus .. ..	..	..	..	..	..	..	..	..
Enteric ... ..	I	..	..	I	..	..	..	I
Other continued ..	..	..	..	..	..	..	..	..
Epidemic influenza ..	2	I	..	..	..	I	..	..
Cholera .. ..	..	..	..	..	..	..	..	..
Plague .. ..	..	..	..	..	..	..	..	..
Diarrhœa .. ..	3	3	..	..	..	..	..	..
Enteritis ... ..	8	6	I	..	..	I	..	..
Puerperal fever ...	..	..	..	..	..	..	..	..
Erysipelas .. ..	..	..	..	..	..	..	..	..
Other septic diseases	..	..	..	..	..	..	..	..
Phthisis .. ..	28	I	..	2	4	21	..	..
Other tubercular diseases .. ..	5	I	4	..	..	..	..	..
Cancer, malignant disease .. ..	11	..	..	..	..	6	5	..
Bronchitis .. ..	22	7	2	..	..	6	7	9
Pneumonia ... ..	24	11	7	2	I	3	..	..
Pleurisy .. ..	4	..	..	..	2	2	..	..
Other diseases of Respiratory organs	5	2	I	..	..	I	I	..
Alcoholism { .. ..	3	..	..	..	..	I	2	..
Cirrhosis of liver ..	..	..	..	..	..	..	..	..
Venereal diseases ..	7	7	..	..	..	..	..	..
Premature birth ..	..	..	..	..	..	..	..	..
Diseases and accidents of parturition ...	I	..	..	..	..	I	..	..
Heart diseases .. ..	37	..	..	..	3	20	14	6
Accidents ... ..	5	I	..	I	..	I	2	4
Suicides .. ..	..	..	..	..	..	..	..	..
All other causes ..	95	16	5	I	3	34	36	17
All causes .. ..	264	56	21	8	13	99	67	37



During the year the usual inspections of the district have been made and monthly reports have been submitted to the Sanitary Committee, in which any question specially affecting the health of the town has been referred to, and when necessary, suggestions submitted indicating the steps required to achieve a better condition of affairs.

J. MOUNTFORT JOHNSON, M.D.,

Medical Officer of Health.

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FACTORY AND WORKSHOPS REPORT.

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Sanitary Department,

Town Hall, Leek.

January 1st, 1904.

To His Majesty's

Secretary of State for the Home Department,

Whitehall, S.W.

Sir,

In pursuance of section 132 of the Factory and Workshops Act, 1901, I have the honour to report as follows :—

There are 139 workshops on the district register, chiefly comprising dress and mantle makers, tailors, cardboard box makers, and silk workers, in which workshops are employed 2 males under 14 years of age, 47 between 14 and 18, and 195 over the age of 18; 4 females under 14, 50 between 14 and 18, and 178 over 18, total males and females being 476. During the year all these premises have been inspected and re-inspections made from time to time

as occasion required. Only in one case was it necessary to complain of the want of cleansing and lime washing, no case of overcrowding was detected, the general sanitary condition of the same was satisfactory, and the other requirements of the Act were being generally observed.

There are also 24 bakehouses on the register within the district, all of which have been inspected twice during the year, and otherwise as occasion required. The number of persons employed therein consists of 5 males between 14 and 16 years of age, 48 males over 16 years of age, and 2 females over 16 years of age. No contravention of the provisions of the Act was recorded during the year. There is one underground bakehouse, the conditions of which were such that it could not by any possible means be put into a condition that would enable the Local Authority to issue a certificate sanctioning its use after January 1st, 1904; consequently the owner has provided a suitable bakehouse above ground containing one of Mason's patent ovens for future use.

During the year 27 cases of outworkers have been reported, viz., 17 in February and 10 in August. No complaint has arisen of any contravention of the provisions of the Act relating thereto.

J. MOUNTFORT JOHNSON, M.D.,

Medical Officer of Health.

## SANITARY INSPECTOR'S REPORT.

### ACTION TAKEN FOR THE ABATEMENT OF NUISANCES, &c.

During the year ending December, 1903, the following cases of Nuisance and other matters complained of were dealt with, comprising :—

	CASES.
Defective or want of private drainage ... ..	43
Slop-stone drains admitting sewer gas into a house disconnected ... ..	8
Defective water closets ... ..	16
Offensive privies ... ..	22
Accumulation of offensive matter ... ..	19
Offensive cesspools filled up ... ..	2
Want of drain ventilation ... ..	6
Dilapidated buildings ... ..	6
Houses in a filthy condition ... ..	1
Nuisances arising from overcrowding ... ..	6
Defective water spouting ... ..	1
Want of proper water supply ... ..	3
Swine kept within 60 feet of dwelling house ... ..	0
Want of proper bedroom ventilation ... ..	0
Slaughter-house nuisance ... ..	1
Water course polluted by sewage ... ..	2
Workshop want lime washing ... ..	1
Want of proper chimney to stove ... ..	1
Offensive pig-sty ... ..	1
Dangerous disused well to be filled up ... ..	1
Want of proper waste-pipe to lavatory ... ..	2
Want of proper receptacle for stable manure... ..	1
Poultry kept in dwelling houses contrary to Bye-Laws	0

Nuisance from fish frying	...	...	...	...	0
Nuisance from offal boiling	...	...	...	...	0
Want of proper paving in private yards attached to dwelling houses	...	...	...	...	5
Want of proper Privy or Water Closet accommodation					12
Want of proper movable receptacles for ashes	...				26
Nuisance arising from dense black smoke	...	...			2
Number of houses disinfected	...	...	...	...	153
Number of Schools disinfected...	...	...	...	...	2
Number of infected articles, bedding, &c., disinfected or destroyed...	...	...	...	...	1987
Number of houses unfit for human habitation closed					1
Number of closed houses made fit for habitation	...				0
Number of cases of parental neglect of children	...				3
Exposing infected clothing	...	...	...	...	2

A considerable number of nuisances were promptly abated on their being intimated to the persons responsible.

There are 8 unexpired notices of nuisances remaining on the books not yet complied with.

#### PROCEEDINGS.

Proceedings were taken in two cases of nuisance injurious to health, and orders of abatement obtained. Proceedings were also taken in two cases for exposing infected clothes in Public places.

#### UN SOUND FOOD.

A carcase of beef affected with tuberculosis, unfit for human food, was condemned and destroyed.

#### OFFENSIVE PRIVIES AND CESSPOOLS.

CASES.

Offensive privies converted into water closets...	...	11
Offensive ashpits abolished, and portable receptacles provided in lieu thereof	...	10

## REMOVAL OF ASHES AND NIGHT-SOIL.

The Scavenging Department removed 4940 loads of house ashes and garbage, compared with 4901 during the preceding year, and 264 loads of night-soil, compared with 294 the preceding year. I again beg to call attention to the absolute necessity of suitable provision being made for the disposal of house refuse in the future. As all tips are highly objectionable, the question arises as to whether arrangements should not be made to provide a destructor. All accumulations of house refuse contain more or less infectious matter dangerous to health, and ought to be destroyed. The frequent removal of refuse from premises demands as much care as the acquisition of food and other things necessary to sustain life ; and however costly it may prove, its removal and destruction is a necessary part of the economy of every family and of every community.

## COMMON LODGING-HOUSES.

There are 4 houses registered under the Common Lodging-houses Acts, for the reception of 111 casual lodgers. The regulations approved by the Local Government Board for their management are being satisfactorily observed. A case of Small-Pox occurred in one of these houses during the year.

## SLAUGHTER-HOUSES.

There are 6 licensed Slaughter-houses within the Town, subject to the Bye-Laws approved by the Local Government Board.

## WORKSHOPS.

There are 139 workshops on the Register, all of which have been inspected from time to time as occasion required and with one exception I have not had to complain of any contravention of the provisions of the Act. The number of persons employed in December were as follows :—

Sex.	AGES.			Total.
	12 and under 14	14 and under 18.	18 and upwards.	
Males	2	47	195	244
Females	4	50	178	232
Persons	6	97	373	476

## BAKEHOUSES.

There are 24 bakehouses within the district, all of which were inspected half-yearly, and at other times as occasion required. The number of Persons employed being 5 males between 14 and 16 years of age, 48. over 16 years of age, and 2 females over 16 years. No complaint of any contravention of the Act was recorded during the year. The underground Bakehouse mentioned in last year's report, will not be used in future ; a suitable building, with a Patent Oven having been provided above ground.

## PETROLEUM STORES.

There are two licenses in force for the keeping and sale of Petroleum that flash under 73 degrees Fahrenheit's thermometer ; and one for the keeping and sale of Calcium Carbide.

Samples of all the several brands of lamp oil kept within the town were procured and tested in manner directed by the first schedule of the Petroleum Act 1879. The flash point of these samples varied from 86 to 100 degrees Fahrenheit, and consequently no license is required for keeping the same.

## GAS SUPPLY.

The purity of the Gas supplied to the Town was tested from time to time in the manner required by the 34th and 35th Vic., cap. 41. No impurity arising from the presence of sulphuretted hydrogen (which is deemed a nuisance injurious to health,) was shown by the tests made at the Town Hall, during the year.

## NOTIFICATION OF INFECTIOUS DISEASE.

During the year ending 1903, 102 cases of infectious diseases, consisting of 18 cases of small-pox, 29 cases of scarlet fever, 23 of diphtheria, 7 of enteric fever, 7 of erysipelas, 2 of chicken pox, and 16 of measles, were notified during the year, and the necessary steps taken to prevent the spread of the disease. 38 of these cases were removed to the Leek Isolation Hospital, and 18 to the Bagnall Small-Pox Hospital, and the remainder treated at their own homes. Notwithstanding the efforts of the department, it has been found exceedingly difficult in many cases to secure satisfactory isolation of cases of infectious disease at home. Thoughtless persons attending upon the patient mixing with others without taking proper precautions, and receiving visitors into the infected house, have been the means of spreading the infection to a large extent. In other instances, especially scarlet fever, cases have been of so mild a character that it was not thought necessary to call in the doctor, and the case has gone unrecognised, the children being allowed to mix with others, and spread the infection. The source of milk supply is recorded in every case of infectious disease notified, and we have no evidence of any mischief resulting from its distribution.



## ISOLATION HOSPITAL.

Year ending December, 1903.

Number of patients in Hospital, Jan. 1st, 1903	...	0
Do. do. admitted during the year	...	38
Do. do. discharged do.	...	31
Do. do. died do.	...	1
Do. do. in Hospital, Dec. 31st, 1903	...	6

The average duration in Hospital of each patient discharged or died was 40·4 days.

## INTERMENTS WITHIN THE TOWN.

During the year ending December, 1903 5 interments took place in the Burial Ground attached to St. Edward's Church, and 10 in the ground attached to Mount Pleasant Wesleyan Chapel. The provisions of the Orders in Council relating thereto were duly observed.

TABLE 1.—ABSTRACT OF THE CENSUS RETURNS OF 1851, 1861, 1871, 1881 1891 AND 1901, WITHIN THE LIMITS OF THE LEEK IMPROVEMENT ACT.

Census Year	Area in Statute Acres	HOUSES.			PERSONS.			Average number of Persons per house.
		In-habited	Unin-habited	Build-ing	Males	Fe-males	TOTAL	
1851	1460	1791	39	22	4315	4781	9066	5 06
1861	1460	2228	101	27	4686	5488	10174	4 56
1871	1460	2386	88	2	5087	6244	11331	4 74
1881	1460	2726	136	18	5874	6991	12865	4 71
1891	1460	3022	169	24	6420	7708	14128	4 67
1901	1460	3380	156	78	6917	8567	15484	4 58



TABLE 2.—POPULATION, BIRTHS AND DEATHS

Table showing the mean Population, the number of Births and Deaths, and the average annual number of Births and Deaths to 1000 persons living, and the mean Age at Death of males, females and persons within the limits of the Leek Improvement Act, during various periods of the 53 years ending 1903.—(W. H. H.)

Periods.	Mean Population	Total number of		Average Annual Number of Births and Deaths to 1000 living.		Mean Age at Death.			
		Births	Deaths	Births	Deaths	Males	Females	Persons	
10 years 1851-60	9635	3440	2819	35.7	29.3	Years, 23.5	Years, 25.9	Persons, 24.8	
10 years 1861-70	10752	3516	2540	32.7	23.6	29.1	34.7	32.0	
10 years 1871-80	12098	4167	2734	34.4	22.6	30.8	32.3	31.5	
10 years 1881-90	13496	4146	2668	30.1	19.8	32.7	35.9	34.3	
10 years 1891-00	14803	4177	2832	28.2	19.1	36.1	38.4	37.2	
year 1901	15509	406	294	26.1	18.9	34.9	42.6	38.8	
year 1902	15663	422	298	26.9	19.0	32.9	38.3	35.4	
year 1903	15726	420	279*	26.6	17.6†	36.2	43.2	39.8	

\* This number includes 2 deaths at Bagnall Hospital of persons belonging to Leek.

† Deducting the deaths of 15 persons belonging to other districts who died in public institutions in Leek the actual death rate is 16.7 to 1,000 living.

Excluding the 15 Deaths in Public Institutions in the Town of persons brought there from other Districts, the corrected annual rate of mortality in the Urban District of Leek for the year ending December, 1903, is 16·7 to 1,000 living.

It will be seen by the foregoing No. 2 Abstract Table that during the last 43 years, the rate of mortality compared with that of the 10 years 1851-60 has been reduced 30 per cent., which is equivalent to a reduction of 30 per cent. in the rate of sickness; and the duration of life has increased 30 per cent. Gradually the fact is being more fully recognised that in proportion as health is protected, and the duration of life is enhanced, the wealth of the community is increased.

TABLE 3—INFANT MORTALITY.

Table shewing the number of Births; the number of Deaths under one year; and the rate of mortality to 1,000 births, within the limits of the Leek Improvement Act, during various periods of the 53 years ending 1903

Periods.	Number of		Rate of Mortality to 1000 Births.
	Births.	Deaths under 1 year.	
10 years 1851-60	3440	646	187·8
10 years 1861-70	3517	573	162·9
10 years 1871-80	4167	670	160·7
10 years 1881-90	4146	585	141·1
10 years 1891-00	4177	620	148·4
year 1901	406	68	167·4
year 1902	422	70	165·8
year 1903	420	56	133·4

The deaths of infants under the age of one year remain the blackest spot in the vital statistics of the town.

There is no doubt but that the objectionable system of the employment of mothers of infants from their homes is, to a large extent, responsible for the loss of infant life. Experience shows that infant mortality tends to rise when the staple trade is good, and falls when it is bad. It rarely happens that a death under the age of one year is recorded amongst the middle and upper classes.

TABLE 4.

Percentage of Illegitimate Births in Leek during each of the under mentioned periods, of the 53 years ending 1903.

Periods of Years.	Percentage of Illegitimate Births.
10 years 1851-60	9.7
10 years 1861-70	8.8
10 years 1871-80	8.5
10 years 1881-90	6.8
10 years 1891-00	5.6
Year 1901	5.6
Year 1902	7.5
Year 1903	6.6

#### HOUSING OF THE WORKING CLASSES' ACT.

During the year 1903, it has not been necessary to resort to the provisions of this Act for closing orders. One house unfit for habitation was closed.

#### CANAL BOATS ACTS, 1877 AND 1884.

During the year ending December 1903, 31 Canal Boats were inspected within the Urban Sanitary District of Leek. The condition of the Boats and their occupants as regards the several matters dealt with in the Acts and Regulations, was satisfactory.

## DAIRIES, COW-SHEDS &amp; MILK-SHOPS ORDER, 1885.

There are 39 persons registered under the above order. 8 are Milk-shops, and the remainder dairies and cow-sheds. There are 200 Milch cows kept. All the said premises were inspected twice during the year, and suggestions made in several cases, with a view to improve the drainage and ventilation of the buildings used as cow-sheds.

## SANITARY CONDITION OF SCHOOLS.

During the year additional improvements were made by managers of several of the Elementary Schools in increasing the accommodation, and materially improving their Sanitary condition. The total number of Scholars on the registers of the several Elementary Schools at the end of December, 1903, was 3071, the total accommodation being 4311. I again desire to urge upon School managers the absolute necessity of preventing all dry dusting and sweeping, a practice shown to be dangerous to the health of the children.

R. FARROW,

Sanitary Inspector.









